

Amendments To Claims

1-22. (Cancelled).

23. (New) A key-frame extraction system, comprising:
video frame extractor that extracts each of a series of
video frames from a video;
a set of frame analyzers that obtain the series of video
frames in parallel from the video frame extractor, each frame
analyzer selecting a corresponding set of candidate key-frames
from the series by performing a different corresponding analysis
on each video frame in the series such that the analyses are
selected to detect multiple types of meaningful content in the
video;
key-frame selector that obtains the corresponding candidate
key-frames from each frame analyzer and arranges the candidate
key-frames into a set of clusters and that selects one of the
candidate key-frames from each cluster as a key-frame for the
video.
24. (New) The key-frame extraction system of claim 23, further
comprising an audio event detector that obtains the series of
video frames from the video frame extractor and that selects a
corresponding set of candidate key-frames from the series by
performing an audio analysis on each video frame in the series
and that provides the corresponding set of candidate key-frames
to the key-frame selector.
25. (New) The key-frame extraction system of claim 23, wherein
the key-frame selector selects the key-frames by determining an
importance score for each candidate key-frame in each cluster.
26. (New) The key-frame extraction system of claim 25, wherein
the key-frame selector determines the importance scores by
determining an image content of each candidate key-frame.
27. (New) The key-frame extraction system of claim 25, wherein
the key-frame selector determines the importance scores by

determining an audio content of each candidate key-frame.

28. (New) The key-frame extraction system of claim 23, wherein the key-frame selector selects the key-frames by determining an image quality for each candidate key-frame in each cluster.

29. (New) The key-frame extraction system of claim 23, wherein the frame analyzers include a color histogram analyzer.

30. (New) The key-frame extraction system of claim 23, wherein the frame analyzers include a color layout analyzer.

31. (New) The key-frame extraction system of claim 23, wherein the frame analyzers include a fast camera motion detector.

32. (New) The key-frame extraction system of claim 23, wherein the frame analyzers include a camera motion tracker.

33. (New) The key-frame extraction system of claim 23, wherein the frame analyzers include an object motion analyzer.

34. (New) The key-frame extraction system of claim 23, wherein the frame analyzers include a human face detector.

35. (New) The key-frame extraction system of claim 23, further comprising a user interface for displaying a set of video frames in the video previous to each key-frame and a set of video frames in the video subsequent to each key-frame and for obtaining a user selection of one or more of the video frames.

36. (New) A method for key-frame extraction, comprising:
selecting multiple sets of candidate key-frames from a video including detecting multiple types of meaningful content in the video by performing in parallel a set of different analyses on each video frame in the video;
arranging the candidate key-frames into a set of clusters;
selecting one of the candidate key-frames from each cluster as a key-frame for the video.

37. (New) The method of claim 36, wherein selecting multiple sets of candidate key-frames includes selecting a set of candidate key-frames from the video by performing an audio analysis on each video frame in the video.

38. (New) The method of claim 36, wherein selecting one of the candidate key-frames from each cluster includes determining an importance score for each candidate key-frame in each cluster.

39. (New) The method of claim 38, wherein determining an importance score comprises determining an image content of each candidate key-frame.

40. (New) The method of claim 38, wherein determining an importance score comprises determining an audio content of each candidate key-frame.

41. (New) The method of claim 36, wherein selecting one of the candidate key-frames from each cluster includes determining an image quality for each candidate key-frame in each cluster.

42. (New) The method of claim 36, wherein performing in parallel a set of different analyses includes performing a color histogram analysis.

43. (New) The method of claim 36, wherein performing in parallel a set of different analyses includes performing a color layout analysis.

44. (New) The method of claim 36, wherein performing in parallel a set of different analyses includes performing a fast camera motion analysis.

45. (New) The method of claim 36, wherein performing in parallel a set of different analyses includes performing a camera motion detection.

46. (New) The method of claim 36, wherein performing in parallel a set of different analyses includes performing an object motion track.

47. (New) The method of claim 36, wherein performing in parallel a set of different analyses includes performing a human face detection.

48. (New) The method of claim 36, further comprising displaying a set of video frames in the video previous to each key-frame and a set of video frames in the video subsequent to each key-frame and obtaining a user selection of one or more of the video frames.